12/4/03

REMARKS/DISCUSSION OF ISSUES

Claims 1-8 and 12 are pending in the application.

Applicants thank the Examiner for acknowledging the claim for priority and receipt of certified copies of all the priority document(s) and for indicating that the drawings are acceptable.

35 U.S.C. § 102

The Office Action rejected claims 1, 2, 4-6 and 12 under 35 U.S.C. § 102 over Ushifusa et al. U.S. Patent 5,818,168 ("Ushifusa").

Applicants traverse those rejections for at least the following reasons.

Among other things, the display device of claim 1 includes a dielectric layer separating electrodes from a discharge chamber, where the dielectric layer includes a transparent metal oxide matrix in which alkyl groups are present.

Applicants respectfully submit that Ushifusa does not disclose a display device that includes a dielectric layer separating electrodes from a discharge chamber, where the dielectric layer includes a transparent metal oxide matrix in which alkyl groups are present.

The Office Action states that Ushifusa discloses that "the dielectric layer includes silicon oxide in which trimethylborate is present," citing col. 9, lines 5+.

Applicants respectfully disagree.

The cited text only discloses that an organometallic gel (such as trimethylborate) is used as a **precursor** in the formation of the dielectric layer. However, Applicants respectfully submit that it does not disclose that alkyl groups are **present in the formed dielectric layer**. Ushifusa teaches that the organometallic gel is applied as a precursor which is then subsequently **changed** to a metal oxide and a hydrolysis product, by a heat treatment (see, e.g., col. 9, lines 18-20; col. 24, lines 9-27; col. 28, lines 41-48).

Meanwhile, the organometallic gels disclosed by Ushifusa all comprise a "pure" metal alkoxide of the form M(OR), such as that disclosed in the Background & Summary section of the specification of the present application. Indeed, one of the

very organometallic gels mentioned by Ushifusa in the cited text at col. 9, lines 4+ is n-butanol solution comprising $Si(OC_4H_9)_4$, the very same precursor compound disclosed in the Background & Summary section of the Specification of the present application on page 1, lines 19-23. With such "pure" metal alkoxides, during the conversion process the alkoxy (-Oalklyl) groups react with one another to form a metal atom-O network and a hydrolysis byproduct.

In response to this, the latest Office Action states that "the final layer will always contain ***derivatives*** of alkly groups as impurities, due to the original precursor" (emphasis added).

At the outset, claim 1 recites "alkyl groups are present," not "***derivatives*** of alkly groups are present." So Applicants do not understand in any event how this statement is supposed to establish that Ushifusa discloses the device of claim 1, even if the statement was accurate.

Furthermore, the Office Action provides no citation to anything in Ushifusa disclosing that "the final layer will always contain derivatives of alkly groups as impurities." This is apparently only an unsubstantiated belief and opinion, not something that is actually taught by Ushifusa or any other cited reference.

However, such unsubstantiated statements cannot support a rejection under 35 U.S.C. § 102, as a matter of law. If the Office Action is taking "Official Notice" that "the final layer will always contain" alkly groups, then Applicants respectfully traverse that statement and request a citation to a prior art reference in support of that statement. If the Office Action is maintaining that that Ushifusa's dielectric layer would somehow inherently contain alkly groups, then Applicants also respectively traverse that statement, noting that just because Ushifusa's dielectric layer may contain alkly groups, that cannot support a rejection under §§ 102-103:

> **The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. ... "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency,**

however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " -- *MPEP 2112 (citations omitted)*

Even if some impurities are present in Ushifusa's dielectric layer, it is not **necessarily** true that alkyl groups would be present. So such a feature is not inherent in Ushifusa.

In any event, regardless of the theory, the Office Action has not even factually supported any proposition that Ushifusa's dielectric layer would *ever* contain alkly groups. Accordingly, Applicants respectfully submit that the Office Action has failed to satisfy the burden to establish that the prior art actually discloses each and every feature of Applicant's claimed invention.

In direct contrast to Ushifusa, as disclosed in the present specification, in one embodiment the dielectric layer is formed with a "precursor layer comprising a metal alkoxide **comprising, bound to the metal atom, an alkyl group**" (page 2, lines 29-31). The specification discloses two exemplary precursor compounds of this class: dimethyldimethoxysilane (DMDMS) and methyltrimethoxysilane (MTMS). During conversion (when heated), the alkyl group or groups in these compounds do not take part on the reactions between the alkoxy (-Oalklyl) groups, and their remaining presence renders the dielectric layer more resistant to the formation of cracks and make it possible to provide thicker layers. Applicants respectfully submit that Ushifusa does not disclose or suggest the benefits of employing a precursor layer comprising a metal alkoxide having an alkyl group bound to the metal atom.
In short, Applicants respectfully submit that Ushifusa does not disclose or suggest that alkyl groups are present in the resultant dielectric layer. Therefore, Ushifusa does not disclose the display device of claim 1.

Not claimed

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over Ushifusa.

Claims 2, 4-6 and 12

Claims 2, 4-6 and 12 depend from claim 1 and are deemed patentable over Ushifusa for at least the reason set forth above with respect to claim 1.

35 U.S.C. § 103

The Office Action rejected claims 3, 7, and 8 under 35 U.S.C. § 103 over Ushifusa in view of Ernsthausen.

Applicants respectfully traverse those rejections for at least the following reasons.

Claims 3, 7 and 8 depend from claim 1. Applicants respectfully submit that Ernsthausen does not cure the defects of Ushifusa with respect to claim 1 as discussed above.

Accordingly, for at least these reasons, Applicants respectfully submit that claims 3, 7 and 8 are patentable over Ushifusa and Ernsthausen.

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-8 and 12 and pass the application to issue.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

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